



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,982	07/10/2003	Shimon Hochbaum	200-65500 (2003-00209)	4256
33402	7590	11/01/2005	EXAMINER	
LAW OFFICES OF MARK C. PICKERING P.O. BOX 300 PETALUMA, CA 94953			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,982	HOCHBAUM, SHIMON	
	Examiner	Art Unit	
	Quan-Zhen Wang	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “a first optical device that is associated with a network end point” and “a second optical device that is associated with the network end point” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 11 adds the limitation: "only one optical device being connected to the end point at a time". Nowhere does the specification, as originally filed, teach the newly added paragraphs. Therefore, the new limitation is considered new matter.

Claim 18 adds the limitation: "so that the first optical device continues to receive network traffic until the second optical device responds to network traffic". Nowhere does the specification, as originally filed, teach the newly added paragraphs. Therefore, the new limitation is considered new matter.

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1 and 6 recite "... a first optical device that is associated with a network end point, ... a second optical device that is associated with the network end point, the second optical device being a replacement for the first optical device; ...". However, the instant specification does not teach how the "first optical device" and the "second optical device" are connected to the optical transmitter and how the "second optical device" is connected to be "being a replacement of the first optical device".

Claims 11 and 18 recite "... a first optical device, ... a second optical device" However, the instant specification does not teach how the optical devices are connected to the optical transmitter.

4. Claims 11-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly added limitation in claim 11: "only one optical device being connected to the end point at a time".

The newly added limitation in the amended claim 18: "so that the first optical device continues to receive network traffic until the second optical device responds to network traffic".

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 6 recite "... the second optical device being a replacement for the first optical device; ...". The terminology "the second optical device being a replacement for the first optical device" renders the claims indefinite because when the first device is replaced by the second device it is unclear whether or not the first device is part of the claim limitation.

7. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the connections of "first optical device" and "second optical device" to the optical transmitter.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2633

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Admitted Art (prior art fig. 1 of the instant application) in view of Nakaishi (U.S. Patent Application Publication US 2002/0021472 A1).

Regarding claims 1 and 6, as they are understood in view of the above 112 problems, the Admitted Prior Art (prior art fig. 1 of the instant application) teaches an optical line terminal device (prior art fig. 1, OLT 110) comprising: an optical transmitter (prior art fig. 1, optical transmitter 112) that receives downstream information, and outputs a plurality of downstream light pulses that represent the downstream information (the instant application: page 3, lines 11-19); an optical receiver (prior art fig. 1, optical receiver 114) that receives a plurality of upstream light pulses and converts the upstream light pulses into upstream information (the instant application: page 3, lines 20-25); and a controller (prior art fig. 1, controller 120) connected to the optical transmitter and the optical receiver, the controller including: a memory (prior art fig. 1, memory 120A) having a plurality cells that store a first identification number representing a first optical device that is associated with a network end point; and a processor (prior art fig. 1, CPU 120B) connected to the memory that prepares the downstream information for the optical transmitter, and receives the upstream information from the optical receiver. The Admitted Prior Art (prior art fig. 1 of the instant application) differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) does not specifically teach that the memory stores a

second identification number representing a second optical device that is associated with the end point, and the second optical device being a replacement for the first optical device. However, it is well known in the art to have a replacement for an optical device having potential fault. For example, Nakaishi teaches to have a second optical device for an optical network unit (figs. 4 and 13, element 111; paragraphs 0045-0047; and paragraphs 0071-0072), an identification number is inherently stored in the controller in order for the controller to communicate with the second optical device. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a second optical device in the end point and configure the controller to store an identification number in the memory having a plurality of cells representing the second optical device in the memory of the controller, as it is taught by Nakaishi, in the system of the Admitted Prior Art (prior art fig. 1 of the instant application) to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claims 2 and 7, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches the downstream information includes the identification number when an optical device is connected to the network end point (the instant application, page 5, lines 20-29). Therefore, the downstream information includes the first identification number when the first optical device is connected to the network end point, and the second identification number when the second optical device is connected to the network end point.

Regarding claims 3 and 8, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that the first downstream information output by controller includes the active identity number of an optical network terminal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove the first identification number from the downstream information and replace with the second identification number when the first optical device fails to respond to the downstream information in order to send information data to the second optical device which replaces first optical device.

Regarding claims 4 and 9, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that the first optical device is an optical network terminal (prior art fig. 1, ONT1).

Regarding claims 5 and 10, the second optical device is inherently an optical network terminal since the second optical device is the replacement of the first optical device.

Regarding claim 11, as it is understood in view of the above 112 problems, the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi have been discussed above in regard to claim1. The Admitted Prior Art (prior art fig. 1 of the instant application) further teaches periodically sending out an identification number message that includes the active identity number of the to-be-added optical network terminal ONT (page 6, lines 15-22) and Nakaishi further discloses that only one optical device being connected to the end point at a time (by the optical switch 106 and 107, and selector 112 and 122). The modified system of the Admitted Prior Art (prior art fig.

Art Unit: 2633

1 of the instant application) and Nakaishi differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi do not specifically teach to determine whether the first optical device has failed to response to the first message a predetermined number of times and send a second message to the end point to be received by a second optical device when the first optical device fails to respond the predetermine number of times, and send a second message to the end point to be received by a second optical device when the first optical device fails to respond the predetermined number of times. However, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches periodically sending out an identification number message that includes the active identity number of the to-be-added optical network terminal ONT (page 6, lines 15-22) to check if an ONT has come on line. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to periodically send out a first message to an end point to a first optical device to determine if the first device responds to the message and determine whether the first optical device has failed to respond to a predetermined number of first messages, as it is taught by the APA, and sending a second message with a second identification number that represents a second optical device, which is merely a duplication procedure of periodically sending out another message, when the first optical device fails to respond to a number of first messages in order to bring the second optical device coming on line.

Regarding claim 12, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that when a network end point is to be added to network,

the active identity number of the optical network terminal to be connected to the network end point to provide service to the end user is added to the table in the memory in a manner that establishes a relationship between the network end point and the active identity number of the ONT (the instant application: page 6, lines 9-14). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to determine if the second optical device has responded to the second message with the second identification number; and mark the second identification number as an active identification number when the second optical device responds to the second message in order to properly replace the faulty first optical device with a working second optical device. Claims 13-15, are duplication steps of claim 12.

Regarding claim 16, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches that the first optical device is an optical network terminal (prior art fig. 1, ONT1).

Regarding claim 17, the second optical device is inherently an optical network terminal since the second optical device is the replacement of the first optical device.

10. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission (prior art fig. 1 of the instant application) in view of Nakaishi (U.S. Patent Application Publication US 2002/0021472 A1) and further in view of Daudelin et al. (U.S. Patent US 6,591,389 B1).

Regarding claim 18, as it is understood in view of the above 112 problems, the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi have been

discussed above in regard to claim 1. The modified system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi do not specifically teach associating a second identification number with the network end point so that the first optical device continues to receive network traffic until the second optical device responds to network traffic. However, the Admitted Prior Art (prior art fig. 1 of the instant application) further teaches to associate an identification number with a network end point (the instant specification, page 5, lines 20-25) and Nakaishi further teaches that identification numbers are assigned to the optical devices (figs. 5A-C, and 6A-B; paragraphs 0050-0051). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi to associate a second identification number with the network end point so that the first optical device continues to receive network traffic until the second optical device responds to network traffic in order to provide uninterrupted communication services to the end users.

The modified system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi further differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi do not specifically teach dispatching a technician to the network end point to service the network end point. However, it is well known business strategy in the art to dispatch a technician to the network end point to service the network end point because of the complexity of the

Art Unit: 2633

electronics and optical components. For example, Daudelin discloses to dispatch a technician to fix or replace a failed circuit pack (column 8, lines 24-28). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to dispatch a technician, as it is disclosed by Daudelin, for the modified transmission system of the Admitted Prior Art (prior art fig. 1 of the instant application) and Nakaishi in order to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claim 19, the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin further differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin do not specifically teach removing the first optical device from the network end point; and installing the second optical device to the network end point. However, Daudelin discloses to dispatch a technician to replace a failed circuit pack (column 8, lines 26-28). The process inherently includes removing the faulty device and installing the replacement device. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove the first (faulty) optical device from the network end point; and installing the second (the replacement) optical device, as it is disclosed by Daudelin, at the network end point of the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin in order to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claim 20, the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin further differs from the claimed invention in that the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin do not specifically teach: inspecting the first optical device and determining whether the first optical device can be fixed within a predefined period of time; fixing the first optical device when the first optical device can be fixed within the predefined period of time; removing the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and installing the second optical device to the network end point after the first optical device has been removed. However, Daudelin discloses to dispatch a technician to fix, or replace a failed circuit pack (column 8, lines 26-28). The process implicitly includes the steps of inspecting the device and determining whether the device can be fixed within a predefined period of time; fixing the device when the device can be fixed within the predefined period of time; removing the device if the device can not be fixed within the predefined period of time; and installing the replacement after the device has been removed. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to inspect the first optical device and determining whether the first optical device can be fixed within a predefined period of time; fix the first optical device when the first optical device can be fixed within the predefined period of time; remove the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and install the second optical device to the network end point after the first optical device has been removed at

Art Unit: 2633

the network end point of the modified system of the Admitted Prior Art (prior art fig. 1 of the instant application), Nakaishi, and Daudelin in order to minimize the interruption of the network service in case the first optical device malfunctions.

Response to Arguments

11. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

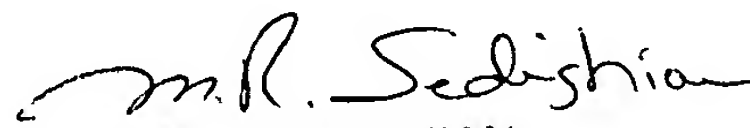
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sutherland et al. (U.S. Patent Application Publication US 2003/0177215 A1) disclose an apparatus for uses in a point-to-multipoint network. Sala et al. (U.S. Patent Application Publication US 2003/0152389 A1) disclose filtering and forwarding frames at an optical line terminal. Garg et al. (U.S. Patent Application Publication US 2003/0078947 A1) disclose methods for assigning unique identifiers in a distributed fault tolerant application.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
10/18/2005


M. R. SEDIGHIAN
PRIMARY EXAMINER